UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,506	12/11/2003	Harvey L. Berger	NGC-262/22-0177	9200

7590 05/20/2008

CARMEN B. PATTI; ROBERT J. BRILL
PATTI & BRILL, LLC
ONE NORTH LASALLE STREET
44TH FLOOR
CHICAGO, IL 60602

EXAMINER	
SINGH, RAMNANDAN P	
ART UNIT	**PAPER NUMBER**
2614	

MAIL DATE	DELIVERY MODE
05/20/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/733,506	BERGER ET AL.	
	Examiner	Art Unit	
	Ramnandan Singh	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *FFinal Rejection* .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed Feb 19, 2008 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomlinson et al ["Fade Countermeasures at Ka Band: Direct Inter-establishment Communications Experiment (DICE)", IEE Colloquium on 17 Dec. 1991, Pages 4/1-4/6].

Regarding claim 6, Tomlinson et al disclose s digital communication apparatus, as shown in Fig. 1, comprising:

means (variable data rate) for reducing the rate of an information data stream to be transmitted from an original signaling rate R to a selected reduced rate using a direct-sequence spread spectrum system [Fig. 1];

a pseudorandom noise source (PRC generator) generating a stream of practically random data at the original signaling rate R (i.e. at a chip rate) [Fig. 1];

means (Exclusive OR) for logically combining the reduced signaling rate information data stream and the data stream from the pseudorandom noise generator Fig. 1]; and

means (channel) for transmitting the logically combined data stream at the original signaling rate [Fig. 1]; wherein signal-to-noise performance is enhanced (due to the use of the higher spreading factor) to compensate for rain attenuation (i.e. the fading of signals due to rain) without increasing power flux density levels [page 2; lines 6-10; Page 2, Section 2, line 1 to page 3, line 6].

Although Tomlinson et al disclose means (variable data rate) for reducing the rate of an information data stream to be transmitted from an original signaling rate R to a selected reduced rate using a direct-sequence

spread spectrum system [Fig. 1],, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to select any value of a fraction of a full data rate including a ¼ of the full data rate as a matter of design choice.

Claims1 and 11 are essentially similar to claim 6 and are rejected for the reasons stated above.

Regarding claim 7, Tomlinson et al further discloses the digital communication apparatus, wherein: the means for logically combining comprises a logical Exclusive OR circuit [Fig. 1].

Regarding claim 8, Tomlinson et al further discloses the digital communication apparatus comprising:

means (demodulator and despreader) for receiving and demodulating the logically combined data stream [Fig. 1];

a second pseudorandom noise source (sync PRC generator) located near the means for receiving, for generating a stream of data identical with the one produced by the first pseudorandom noise source [Fig. 1]; and

means (Exclusive ORs) for logically combining the demodulated data stream with the data stream from the second pseudorandom noise source, for recovering the original data stream at the reduced signaling rate [Fig. 1; Page 2, Section 2, lines 1-26].

Claim 2 is essentially similar to claim 8 and is rejected for the reasons stated above.

Regarding claim 3, Tomlinson et al further discloses the method, wherein the randomizing step comprises:

generating a pseudorandom noise sequence of bits at the original signaling rate R, which is equal to the chip rate ; and logically combining the pseudorandom noise sequence with the reduced signaling rate signals to produce the randomized signal [Fig. 1; page 2, Section 2, last paragraph].

Regarding claims 10 and 13, the limitations are shown in claim 3 above, wherein the modulation may include any one of well-known modulation schemes including BPSK.

Regarding claim 4, Tomlinson et al further discloses the method, wherein the logically combining step comprises performing a logical exclusive OR operation [Fig. 1].

Regarding claim 5, the limitations are shown in claim 8 above.

Regarding claims, 9 and 12, data buffers (or memory of storage) are inherently present with the Tomlinson et al system.

4. Claims 1, 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckert [US 5,325,394].

Regarding claim 6, Bruckert discloses a spread-spectrum communication apparatus, as shown in Fig. 1, comprising:

means (106) for reducing the rate of an information data stream to be transmitted from an original signaling rate R to a selected reduced rate using a direct-sequence spread spectrum system [Fig. 1];

a pseudorandom noise source (long PN generator) (110) generating a stream of practically random data at the original signaling rate R (i.e. at a chip rate) [Fig. 1];

means (Exclusive OR) (112) for logically combining the reduced signaling rate information data stream and the data stream from the pseudorandom noise generator [Fig. 1]; and

means (channel) for transmitting the logically combined data stream at the original signaling rate [Fig. 1]; wherein signal-to-noise performance is enhanced (due to the use of the higher spreading factor) to compensate for rain attenuation (i.e. the fading of signals due to rain) without increasing power flux density levels [Fig. 1; col. 5, line 10 to col. 8, line 7].

Although Bruckert discloses means (106) for reducing the rate of an information data stream to be transmitted from an original signaling rate R to a selected reduced rate using a direct-sequence spread spectrum system [Fig. 1],, it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to select any value of a fraction of a full data rate including a ¼ of the full data rate as a matter of design choice.

Claims 1 and 11 are essentially similar to claim 6 and are rejected for the reasons stated above.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Ramnandan Singh/
Primary Examiner
Art Unit 2614